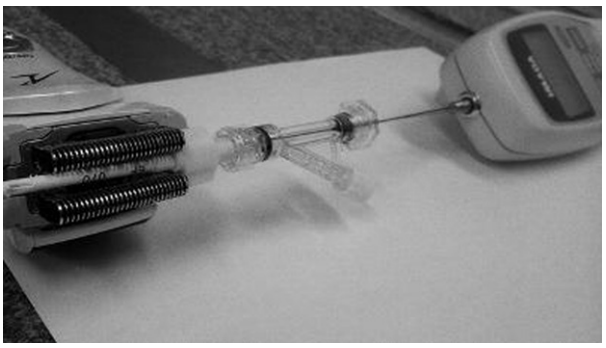

Results: Mean friction resistance (N) was significantly decreased with the new support system (0.84±0.28 vs. 1.26±0.31, n=18, p<0.01). Any unfavorable phenomenon such as device fracture was not observed during the support system use.
Conclusions: The new intervention support system could reduce friction resistance during device insertion. Therefore, the system has potential ability to contribute to make complex coronary intervention procedures such as those to heavily calcified lesions or chronic total occlusions easier.

TCT-448
Abstract Withdrawn

TCT-449

Short and Long Term Clinical Outcomes of Chronic Total Occlusion Treatment with a Latest Generation Drug Eluting Stent

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Background: Introduction of drug-eluting stents (DES), which have been demonstrated to cause less restenosis than bare-metal stents (BMS) in specific patient and lesion subsets, has raised hopes of improving long-term vessel patency after chronic total occlusion (CTO) recanalization. However, limited evidence of the benefit and safety of DES use in CTO is available. We aim to analyze the short and long term outcomes of patients with CTO treated with the latest generation drug eluting stent (DES) by pulling data from NOBORI 2 and eNOBORI registries.
Methods: NOBORI2 and eNOBORI are two large, prospective, single-arm, multi-center, registries that enrolled 3067 and 7750 patients respectively, out of which 97 and 302 had treated CTO. All adverse events were adjudicated by an independent clinical event committee in NOBORI 2, while adjudication in eNOBORI (including stent thrombosis) is ongoing. The primary endpoint was Target Lesion Failure (TLF), a composite of cardiac death (CD), target vessel related myocardial infarction (MI) and target lesion revascularization (TLR).
Results: CTO patients were ~60y old, 83% males, 50% with prior MI, 28% prior PCI and 5% previous cardiac surgery. Multiple vessels were treated in 33% of patients (2.20±1.43lesions per patient). The lesions were complex (82% B2/C type), ostial (17%), calcified (43%), contained thrombus (2%) and 7% required bifurcation treatment. Pre- and post-dilatation were performed in 86% and 34% of lesions respectively. At 1-month, there were no deaths nor TLR, while there were 3 MI (1.2%) and one TVR (0.4%). The TLF rate was 1.2%. In the cohort of patients followed at 3-year, 3 patients suffered a cardiac death (3.1%), 1 had an MI (1.0%), 3 underwent TLR (3.1%) and TLF rate was 6.2%. A total of 87% of the patients were angina free. No stent thrombosis occurred up to 3 years.
Conclusions: Treatment of CTO with Nobori DES showed favourable short- and long-term outcomes. Low rates of procedural complications, short and long term adverse events and the absence of stent thrombosis up to 3 years, despite the multiple overlapping stents suggest that this stent is valuable treatment option for patients with CTO disease considered as candidates for PCI.

TCT-450

Improvement in LV systolic function with ischemia guided (fractional flow reserve) chronic total occlusion (CTO) intervention

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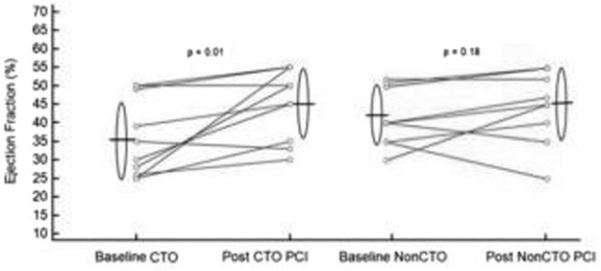
Background: To evaluate ischemia with FFR and LV function response to the myocardium supplied by a CTO in pts with LV systolic dysfunction (LV EF ≤0.50).
Methods: Pts referred for angiogram for angina on optimal medical therapy and LVEF ≤0.50 underwent FFR evaluation of CTO (after partial recanalization with a small 1.5 mm balloon) and underwent PCI of CTO.
Results: Ten CTO and 10 matched non-CTO pts with severe stenosis ≥70% were studied. Baseline characteristics were similar: age(60.9 + 8.9yrs), sex(males90%), HTN(90%), diabetes (45%), hyperlipidemia(80%), CRI(30%), bypass surgery(25%), h/o MI(50%) and Q waves on ECG(35%). LVEF at baseline was 35.7±10.6% in the CTO and 42.3±7.9 in the non-CTO pts, (p =0.24). Pre-PCI FFR were 0.46±0.17 in the CTO and 0.42±0.16 in the non-CTO groups (p =0.83) and; post-PCI FFR was similar (0.88±0.09, CTO group and 0.90±0.05 non-CTO group, p=0.57). At a mean f/u of 1.4 yrs, LV EF was significantly improved to 45.3±9.5% in the CTO group vs 35.7±10.6% at baseline (p=0.01), while there was a non-significant LV EF improvement in the non-CTO group (45.4±9.8% vs 42.3±7.9%, p=0.18) as shown in figure.



Conclusions: In pts with LV systolic dysfunction there is demonstrable ischemia (FFR<0.80) in the CTO territory, that is relieved after CTO PCI (FFR ≥0.80) with an improvement in the LV systolic function.

TCT-451

Application of the "Hybrid Approach" To Chronic Total Occlusion Interventions

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Background: The "hybrid approach" to chronic total occlusion (CTO) interventions advocates early and frequent change of the utilized strategy to maximize efficiency.
Methods: We prospectively recorded detailed procedural information (strategy change with corresponding procedural and fluoroscopy time and patient radiation exposure in 61 consecutive patients undergoing CTO intervention between July 2011 and May 2012.
Results: Fifty-five of 61 patients had successful CTO intervention with an overall procedural success rate of 90.2%. Mean age was 65 ±7 years, all patients were men and 32% had prior coronary artery bypass graft surgery. The primary approach was retrograde for 7 patients (11.5%) and antegrade for 54 patients (88.5%), of whom 21 patients (34.5%) underwent retrograde intervention after failed antegrade approach (Table). Thirty-three patients (54%) had no approach change, but 28/61 patients (46%) required 3.8±1.4 approach changes (range 2 -7) (Figure). The mean procedure time, fluoroscopy time, radiation exposure and catheters and wires used are summarized in the Table.

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